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ABSTRACT

This article describes the use of the precise feedback and negative reinforcement to ameliorate problems at a community health center. Both procedures were successful in improving the performance (returning toys to their appropriate places) of undergraduate paraprofessionals involved in an educational program for disadvantaged children. The study indicates that both precise feedback and negative reinforcement are not restricted to clinically relevant individual behaviors and that the procedures can be effectively applied to community-centered programs. Implications for future research and application of these techniques to other community-based interventions and group situations are discussed. (Author)

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Teaching College Students to Put Their Toys Away: Some Observations on the Application of Negative Reinforcement and Precise Feedback to Community Programs

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Teaching College Students to Put Their Toys Away: Some Observations on the Application of Negative Reinforcement and Precise Feedback to Community Programs

Among the unpleasant facts of life continually faced by administrators of social intervention programs is the daily occurrence of unanticipated snafus--deceptively trivial problems which threaten to disrupt a program's functioning and attainment of goals. The present report describes the application of two behavioral techniques, negative reinforcement and precise feedback, to one such problem. Study 1 deals with the use of negative reinforcement, while Study 2 discusses the effects of feedback.

Study 1

For six years, an early secondary prevention program has been in operation in a Rochester, New York, community health center. In this program, paraprofessionals (undergraduates) employ behavioral curricula to remediate disadvantaged toddlers' developmental lags (Jason, Clarfield, & Cowen, 1973; Jason & Kimbrough, 1974). Center group sessions are held twice weekly, with half the paraprofessionals attending each session.

An unforeseen difficulty occurred in the fall of 1974 when the paraprofessionals involved consistently failed to return educational materials (e.g., toys) to their proper cabinet locations. Although seemingly minor, this situation was potentially damaging to the program's effectiveness, since it hindered the orderly presentation of materials to

the youngsters and generated ill will among the various teams of paraprofessionals.

The program coordinator (the senior author) who was present at each session, repeatedly but unsuccessfully requested the undergraduates to replace all materials in their proper places. He then began to count the number of misplaced items at the end of each session. For these three baseline sessions, there was an average of 63 misplaced materials (out of a total of approximately 1000). [Interrater reliability, agreements/(agreements plus disagreements), by two independent judges on two occasions was .95]. The senior author counted misplaced toys throughout all phases of Study 1 and 2.

Following these baseline sessions, the undergraduates were informed that if fewer than 20 materials were misplaced, they would not have to hand in an assignment (a lesson report) for that session. The use of negative reinforcement (i.e., contingently eliminating assignments) on a group basis was considered strategically and educationally feasible, since the paraprofessionals had already attained criterion with regard to the writing of satisfactory lesson reports. During the following three sessions, the mean number of misplaced items dropped markedly to 19. (See figure 1). A by-product of this intervention seemed to be considerably improved cooperation among paraprofessionals compared to the baseline sessions.

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Insert Figure 1 about here

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When negative reinforcement was then discontinued (i.e., lesson reports were noncontingently eliminated), the mean number of misplaced materials was still only 14 for two consecutive sessions. Although brief, this two-session follow-up was the maximum obtainable, since the program for that semester had to terminate at that time.

Study 2

During the next program semester (Spring, 1975), the problem outlined above recurred. The average number of misplaced materials (as counted by the program coordinator) was 44 for five baseline sessions. More time elapsed prior to the onset of intervention in Study 1 than in Study 2. This difference possibly accounted for the greater baseline severity of the problem in Study 1, in that the behavior of misplacing materials had more time to become firmly established.

In reflecting upon the results of Study 1, it struck us that the negative reinforcement procedure used had involved general feedback as one of its components; i.e., the undergraduates had been told at the end of each session whether or not they had achieved criterion. (This is true for all explicit reinforcement procedures.) Consequently, in Study 2, rather than institute negative reinforcement, we explored the effect of precise feedback alone. We decided that at the conclusion of each session the program coordinator would simply tell the paraprofessionals the number and kind of materials out of place and the materials' proper cabinet locations. (Unlike Study 1, lesson reports were required throughout all phases of Study 2.)

With this feedback in operation for the next six sessions, the mean number of misplaced items fell to 20 (see Figure 2). When feedback was then terminated, there was a rise in the number of out-of-place toys to prefeedback levels (an average of 40 for the five Baseline 2 sessions). The final stage of the ABAB design, the reintroduction of feedback (Feedback 2), produced a precipitous decline in the number of misplaced materials--a mean of only ten for the three sessions.

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Insert Figure 2 about here

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General Discussion

Precise feedback and negative reinforcement have, to date, been utilized primarily in therapeutic settings. Negative reinforcement, for instance, has been employed in the treatment of childhood schizophrenia (Lovaas, 1968), as well as for such individual maladaptive behaviors as obesity and alcoholism (Cautela, 1967). Likewise, precise feedback (both externally and self-produced) has been used principally to ameliorate clinical problems such as phobias (Leitenberg, Agras, Allen, Butz, & Edwards, 1975), insomnia (Jason, 1976), and psychophysiological disorders (Shapiro & Schwartz, 1972). With much less frequency has it been applied from a broader, community-oriented perspective, Risley, Reynolds, and Hart's (1970) work with parents and Fixsen, Wolf, and Phillips' (1973) efforts with delinquents being steps in this direction. The present two studies suggest that the utility of both negative

reinforcement and precise feedback is not restricted to clinically relevant individual behaviors and that these techniques can be applied with profit in community-centered programs and on a group basis.

Further exploration of negative reinforcement and precise feedback, both in field settings and in analog group tasks in the laboratory, would aid in determining the scope of their applicability and in teasing out their critical parameters. Due to the dynamics of group behavior, these critical parameters and the interactions among them might well turn out to be somewhat different for group situations than for individuals. Specific issues particularly worthy of investigation are: 1. the differential effectiveness, if any, of the techniques with various groups (e.g., children, prisoners, law enforcement officers) and 2. formal assessment of the impact of these procedures on such nontarget behaviors as cooperativeness among paraprofessionals. Additionally, an explicit comparison of feedback plus negative reinforcement with feedback alone on one study should prove helpful.

The results of Study 2 demonstrated a clear functional relationship between the delivery of feedback and the number of items placed in their correct locations. An interesting question to consider is why positive effects persisted following the removal of a contingency (Study 1), but not following the cessation of feedback (Study 2). The possible answers are the following: 1) the discrepancy is more apparent than real, in that during the first two follow-up sessions of both Studies 1 and 2, there were still relatively few toys out of place. Not

until the third follow-up session of Study 2 did the number of displaced toys rise sharply. Given a longer follow-up period, the gains produced by the intervention in Study 1 might, too, have evaporated; 2) the operation of negative reinforcement may have caused the program coordinator to become an effective secondary reinforcer in Study 1. Because there were no explicit contingencies in effect at any time in Study 2, he could have lacked the opportunity to develop into a potent conditioned reinforcer.

Finally, Study 1 hints at the practicality of broadening the range of stimuli employed in negative reinforcement. Most applied clinical interventions involving negative reinforcement have used artificially introduced stimuli, such as shock (Lovaas, 1968) or visual images (Cautela, 1971). Our findings raise the possibility that many reinforcers in the environment whose operation is no longer strictly necessary could produce desirable effects on both group and individual behavior by their contingent removal.

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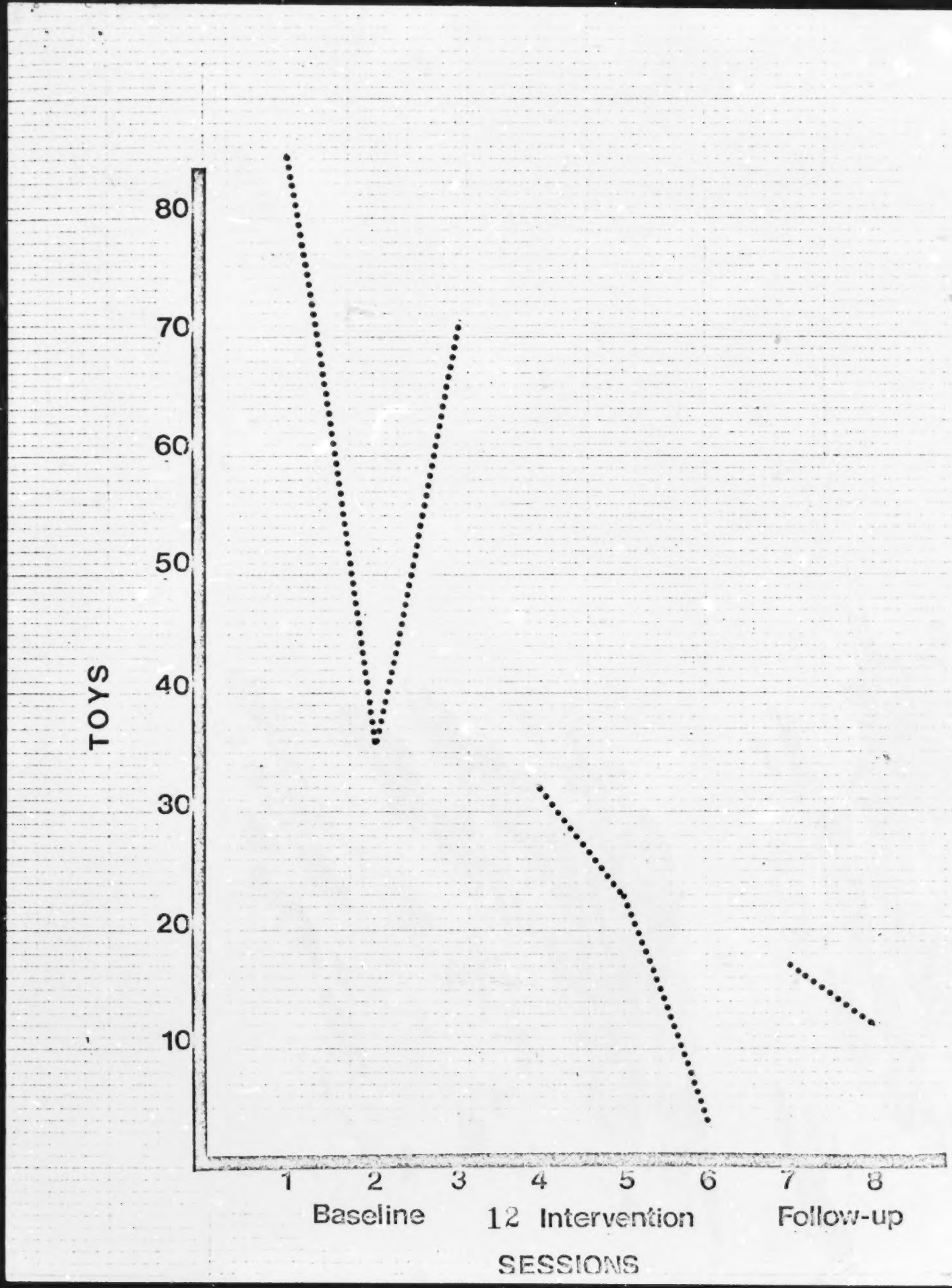
Figure Caption

Figure 1. Misplaced toys during baseline, intervention and follow-up.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TOYS
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Baseline
12 Intervention
Follow-up
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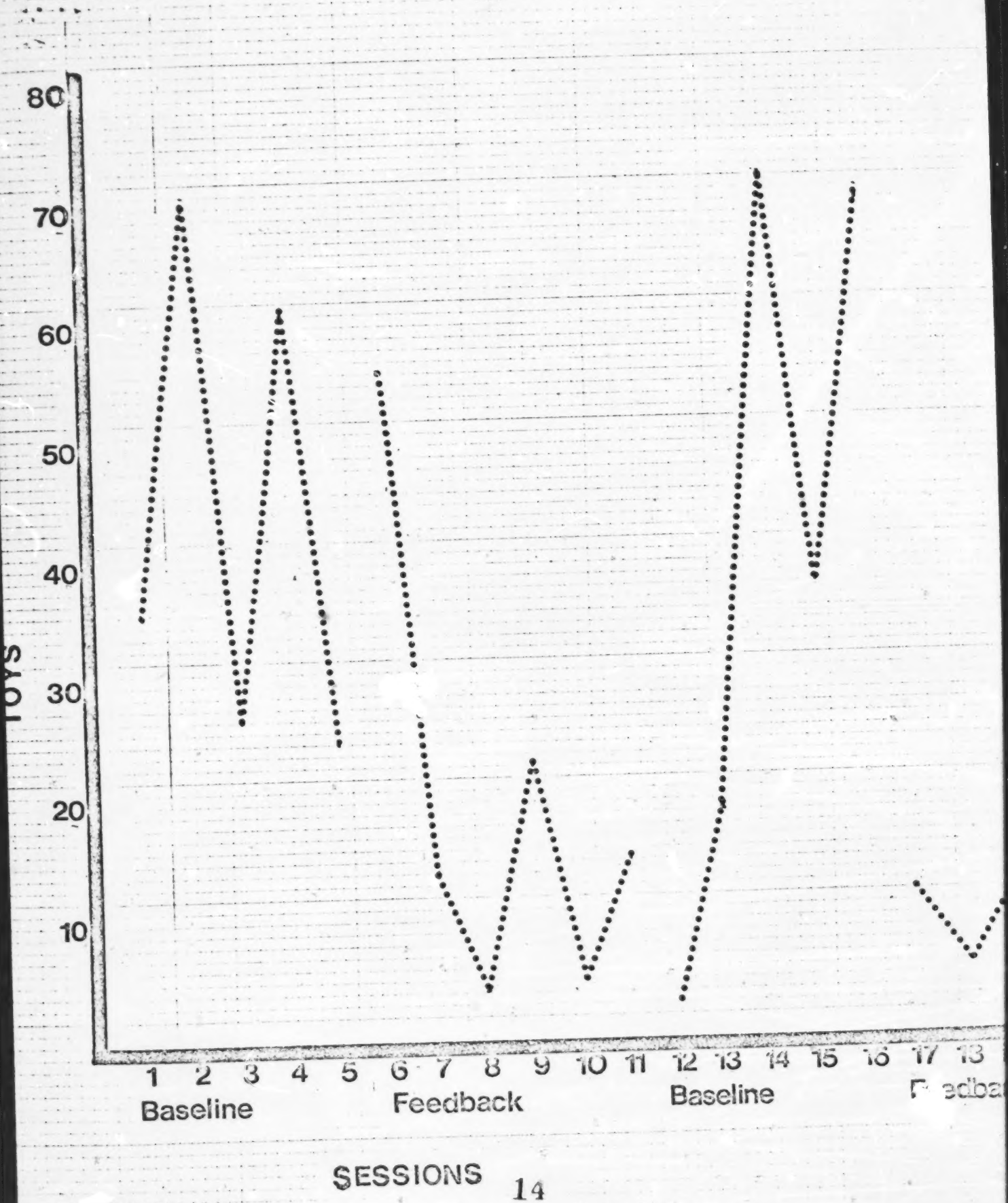
Figure Caption

Figure 2. Misplaced toys over baseline and feedback conditions.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TOYS
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Baseline
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Baseline
SESSIONS